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| APPLICATION NO.   | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|----------------------|---------------------|------------------|
| 10/625,796  | 07/23/2003  | Tadashi Inoue        | 01206CD/HG          | 9019             |
| 1933  | 7590        | 12/09/2004           | EXAMINER            |                  |
| FRISHAUF, HOLTZ, GOODMAN & CHICK, PC<br>767 THIRD AVENUE<br>25TH FLOOR<br>NEW YORK, NY 10017-2023 |             |                      | YEE, DEBORAH        |                  |
|   |             | ART UNIT             | PAPER NUMBER        |                  |
|   |             |                      | 1742                |                  |

DATE MAILED: 12/09/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

|                              |                         |                  |
|------------------------------|-------------------------|------------------|
| <b>Office Action Summary</b> | Application No.         | Applicant(s)     |
|                              | 10/625,796              | INOUE ET AL.     |
|                              | Examiner<br>Deborah Yee | Art Unit<br>1742 |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

**A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM  
THE MAILING DATE OF THIS COMMUNICATION.**

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) Responsive to communication(s) filed on \_\_\_\_\_.
- 2a) This action is **FINAL**.                            2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) Claim(s) 17-40 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 17-40 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 23 July 2004 is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All    b) Some \* c) None of:
  1. Certified copies of the priority documents have been received.
  2. Certified copies of the priority documents have been received in Application No. 09/827,597.
  3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

|  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date: _____  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>7-23-04</u> . | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
|  | 6) <input type="checkbox"/> Other: _____                                    |

## DETAILED ACTION

### ***Double Patenting***

1. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

2. Claims 25 to 40 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 5 to 16 of U.S. Patent No. 6,663,725. Although the conflicting claims are not identical, they are not patentably distinct from each other because patented claims recite a method for manufacturing an analogous steel sheet in substantially the same manner as claimed by applicant. Note that similar to the present invention, patented claims subject an analogous steel alloy slab to hot rolling at Ar3 point or above followed by cooling within 2 seconds (within the pending claimed range of 0.1 to less than 1.0 second) down to 600 to 750C (overlaps pending claimed range of 400 to 700C) at 200 to 2,000c/sec (within pending claimed range of 20 to 2,000c/sec ), coiling, cold rolling and annealing. Note that the overlapping ranges for temperature, time and cooling rate establishes a prima facie case of obviousness since it would be obvious to one of ordinary skill in the art to select

the claimed ranges from the broader disclosure of the patented claims because the patented claims has similar utility and properties.

3. Although patented claims do not specify the hot rolling reduction range of 8 to 30% as recited in pending claims 27 and 28, such would be a matter of choice well within the skill of the artisan and productive of no new and unexpected results.

4. Claims 25 to 32 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 3 to 12 of U.S. Patent No.6,632,295. cited by applicant in IDS dated 7-23-04. Although the conflicting claims are not identical, they are not patentably distinct from each other because they both disclose substantially the same method of producing a steel sheet. Note patented claimed method recites subjecting an analogous steel alloy slab to hot rolling at a temperature greater than Ar3 followed by cooling to 630 to 680C (overlaps claimed ranged 400 to 700C) at a cooling rate of 15 to 35C/sec (overlaps claimed range of 20 to 2,000 C/sec). Note that the overlapping ranges for temperature, time and cooling rate establishes a prima facie case of obviousness since it would be obvious to one of ordinary skill in the art to select the claimed ranges from the broader disclosure of the patented claims because the patented claims has similar utility and properties.

Claim 26 recites Ca with a lower limit of zero and hence is not required.

Although hot rolling at 8 to 30 % as recited in claims 27 to 28 are not taught by prior art, such would not be a patentable difference since it would be a matter of choice well within the skill of the artisan and productive of no new and unexpected results.

Although cooling within 0.1 to less than 1.0 second after hot rolling as recited in claims 29 to 32 is not taught by patented claims, such would be expected since cooling is directly followed by hot rolling.

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 17 to 40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ushioda et al. (US Patent 5,486,241).

7. Ushioda in claims 11 to 14 of columns 23 to 24 discloses a hot dip zinc-coated steel sheet processed in substantially the same manner as recited in claims 17 to 24. Note that prior art claim 11 discloses heating an analogous steel alloy slab to hot rolling with a finishing temperature of not lower than (Ar3-100C) (overlaps pending claimed range of Ar3 or above), cooling the hot-rolled steel sheet within 1 second (overlaps pending claimed range of within 2.5 seconds) down to the temperature of from 500 to 750C ( overlaps pending claimed 500 to 700C) at 50C/sec or more (overlaps pending claimed 100c/sec or more) followed by coiling, pickling, cold rolling, annealing and hot-dip galvanizing at 600 to 900C(overlaps claimed range of 720C or above).

8. Even though prior art method uses a steel alloy containing 0.0001 to 0.0015%C which is lower than the claimed range of 0.01 to 0.3%C, such would not be a patentable

difference since a method is not rendered patentably new by the use of a somewhat different but analogous steel, especially if a method simply employs a usual type of starting material in a conventional method to yield a predictable results.

9. Prior art alloy contains small amounts of Cr, and B which meets claims 18 to 20.
10. Prior art method in claim 1 cools within one second after hot rolling at a rate of 50C/sec of more which meets claims 21 to 24. Moreover, note Table 16 of column 19 wherein specific prior art examples are cooled at 100C/second.
11. Similar to claim 25, Ushioda in claim 7 of columns 22 and 23 discloses a method of manufacturing a steel sheet comprising the steps of hot rolling an analogous steel alloy slab at 1150 to 1350C (within the claimed temperature Ar3 or above) and cooling down to 600 to 750C ( overlaps claimed range of 400 to 700C) at a cooling speed of not lower than 50C/sec (overlaps claimed range of 20 to 200C/sec) followed by coiling.
12. Even though prior art method uses a steel alloy containing 0.0001 to 0.0015%C which is lower than the claimed range of 0.01 to 0.3%C, such would not be a patentable difference since the method is not rendered patentably new by the use of a somewhat different but analogous steel, especially if the method simply employs a usual type of starting material in a conventional method to yield a predictable results.
13. In regard to claim 26, Ca has a lower limit of zero and therefore not required.
14. Even though prior art does not teach a hot rolling reduction rate of 8 to 30% as recited by claims 27 and 28, such would not be patentable difference since it would be a matter of choice well within the skill of the artisan and productive of no new and unexpected results.

15. Prior art claim 7 discloses cooling from hot rolling within 1 second which encompasses the 0.1 to less than 1.0 seconds recited by claims 29 to 32.
16. Prior art claim 7 method discloses cold rolling and annealing after coiling which meets claims 33 to 40.
17. Claims 25 to 40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takahashi et al (US Patent 4,436,561 or Tosaka et al. (US Patent 5,587,027) .
18. Claims 25 to 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bano et al. (US Patent 5,873,957).
19. Each reference teaches a method of subjecting an analogous steel alloy slab to hot rolling at a temperature of Ar3 or above followed by cooling down to a temperature range with a cooling rate range which overlap with those recited by claim 25. See Takahashi, claim 1, columns 7 and 8; Tosaka, claims 1 and 11, columns 12-13; and Bano, claim 6, column 6. sec (within pending claim range of 20 to 2,000c/sec ), coiling., cold rolling and annealing. Note that the overlapping ranges for temperature, time and cooling rate establishes a *prima facie* case of obviousness since it would be obvious to one of ordinary skill in the art to select the claimed ranges from the broader disclosure of the patented claims because the patented claims has similar utility and properties.

20. In regard to claim 26, Ca has a lower limit of zero and therefore no required.
21. Even though hot rolling reduction of 8 to 30% recited in claims 27 and 28 are not taught by prior art, such would not be a patentable difference since it would be a matter of choice well within the skill of the artisan and productive of no new and unexpected results.
22. Even though cooling within 0.1 to less than 1 second after completing hot rolling is not disclosed by Takahashi or Tosaka, such would be expected since cooling is directly followed by hot rolling. Moreover, Bano in claim 6 discloses cooling within 10 seconds or less which overlaps with applicant's range of 0.1 to 1 seconds.
23. In regard to claims 33 to 40, cold working and annealing are taught by Takahashi in claim 1 and Tosaka in claim 1 .

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Deborah Yee whose telephone number is 571-272-1253. The examiner can normally be reached on Monday-Friday from 6:00 to 2:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on 571-272-1244. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Deborah Yee  
Primary Examiner  
Art Unit 1742

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